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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,599	02/27/2004	Mark Spellman	11336/602 (P04021US)	9045

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EXAMINER	
LE, LANA N	
ART UNIT	**PAPER NUMBER**
2618	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/789,599	SPELLMAN, MARK	
	Examiner	Art Unit	
	Lana N. Le	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 9/15/06

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-30 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-30 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-10, 12-13, 15, 18-23, and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggers et al (US 5,910,996) in view of Moers (US 6,957,053).

Regarding claim 1, Eggers et al disclose a radio receiver (fig. 3) comprising: a first tuner (34) connected with an inherent antenna for generating a first audio signal; a second tuner (35) connected with the antenna for generating a second audio signal; a switching circuitry (41) connected with the first tuner (34) and the second tuner (35), where the first audio signal and the second audio signal are processed by the switching circuit to generate a first audio output signal (audio output to 42) and a second audio output signal (audio output to 43); a first audio power amplifier (42) connected with the digital signal processor configured to receive the first audio output signal; and a second audio power amplifier (43) connected with the switching circuit configured to receive the second audio output signal. Eggers et al do not disclose a circuitry for digitally processing the audio signals. Moers discloses a DSP (6) for digitally processing the audio signals (fig. 1) (col 3, line 64 - col 4, line 4; col 4, lines 23-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a

digital signal processor in order to digitally process and enhance the sound of the audio signals.

Regarding claim 2, Eggers et al and Moers disclose the radio receiver of claim 1, wherein Moers disclose the receiver comprising a control unit (12) connected (via 4) with the first tuner (3) and (via 7) the second tuner (2).

Regarding claim 3, Eggers et al and Moers disclose the radio receiver of claim 2, where Moers discloses the control unit (12) is operable to generate a first tuner control output (via I/O 11) that is used to set the first tuner (3) to a first selected frequency (col 3, lines 45-48).

Regarding claim 4, Eggers et al and Moers disclose radio receiver of claim 3, where Moers disclose the control unit (12) is operable to generate a second tuner control output (via I/O control 11) that is used to set the second tuner (2) to a second selected frequency (col 3, lines 45-48).

Regarding claim 5, Eggers et al and Moers disclose the radio receiver of claim 1, where Moers discloses a signal quality output signal (16) is provided to a control unit (25) by the first tuner (3) (col 6, lines 42-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a signal quality output outputted to the control unit in order to send a measurement of the signal level to the controller to decide whether to receive the signal for reception as suggested by Moers.

Regarding claim 6, Eggers et al and Moers disclose the radio receiver of claim 5, where Moers discloses the control unit (12) is operable to adjust the first tuner (3) to an alternate frequency setting if a first frequency setting falls below a predetermined

threshold of signal quality (col 5, lines 48-53).

Regarding claim 7, Eggers et al and Moers disclose the radio receiver of claim 1, where Moers et al disclose a signal quality output signal (selected best quality tuned FM frequency) is provided to a control unit by the second tuner (2) (col 6, lines 36-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a signal quality output outputted to the control unit in order to send a measurement of the signal level to the controller to decide whether to receive the signal for reception as suggested by Moers.

Regarding claim 8, Eggers et al and Moers disclose radio receiver of claim 7, where Moers discloses control unit is operable to adjust the second tuner (2) to an alternate frequency setting if a first frequency setting falls below a predetermined threshold of signal quality (selecting a clearer tuning frequency for receiving an RF FM transmitter within an RF FM frequency band) (col 3, line 64 - col 4, line 4).

Regarding claim 9, Eggers et al and Moers disclose the radio receiver of claim 1, Moers disclose the receiver comprising a first radio data system decoder (4) connected with the first tuner (3) and a control unit (12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a decoder and a control unit in order to extract RDS data from the demodulated data as suggested by Moers (col 4, lines 42-44).

Regarding claim 10, Eggers et al and Moers disclose the radio receiver of claim 9 where Moers discloses the first radio data system decoder (4) is configured to provide data to the control unit (12) that relates to the first tuner (3).

Regarding claim 12, Eggers et al and Moers disclose the radio receiver of claim 9 wherein Moers discloses further comprising a second radio data system decoder (7) connected with the second tuner (2) and the control unit (12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a second decoder to decode RDS data of the second tuner if the first tuner also contain RDS data.

Regarding claim 13, Eggers et al and Moers disclose the radio receiver of claim 12, where Moers discloses the second radio data system decoder (7) is configured to provide data to the control unit that relates to the second tuner (2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a second decoder to decode RDS data of the second tuner if the first tuner also contain RDS data.

Regarding claim 15, Eggers et al and Moers disclose the radio receiver of claim 1, where Eggers et al disclose the first audio power amplifier (42) is connected with at least one speaker (5).

Regarding claim 18, Eggers et al disclose a radio receiver comprising:

a switching control unit (41);

a first tuner (34) connected with the switching control unit capable of being tuned to a first frequency setting; a second tuner (35) connected with the switching unit capable of being tuned to a second frequency setting (col 5, lines 21-44);

the switching control unit (41) connected with the first tuner (34) and the second tuner (35) configured to generate a first audio output signal as a function of the first

frequency setting of the first tuner and a second audio output signal as a function of the second frequency setting of the second tuner (see fig. 3; col 3, lines 16–53; col 2, lines 10-12; col 6, lines 4-29);

a first audio power amplifier (42) connected with the switching circuit (41) configured to receive the first audio output signal; and

a second audio power amplifier (43) connected with the switching circuit (41) configured to receive the second audio output signal.

Eggers et al do not disclose a control unit; digital signal processor connected with the first tuner and the second tuner configured to generate a first audio output signal as a function of the first frequency setting of the first tuner and a second audio output signal as a function of the second frequency setting of the second tuner. Moers discloses a digital signal processor (6) connected with the first tuner (3) and the second tuner (2) configured to generate a first audio output signal as a function of the first frequency setting of the first tuner and a second audio output signal as a function of the second frequency setting of the second tuner (fig. 1) (col 4, lines 23-34; col 3, line 45 - col 4, line 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a digital signal processor in the receiver of Eggers et al in order to digitally process and enhance the sound of the audio signals.

Regarding claim 19, Eggers et al and Moers disclose the radio receiver of claim 18, where the control unit (41) is configured to tune the first and second tuner to the first and second frequency settings.

Regarding claim 20, Eggers et al and Moers disclose the radio receiver of claim

18, wherein Moers discloses the receiver comprises a radio data system decoder (4) connected with the first tuner (3) and the control unit (12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a decoder and in order to extract RDS data from the demodulated data as suggested by Moers (col 4, lines 42-44).

Regarding claim 21, Eggers et al and Moers disclose the radio receiver of claim 20, where Moers discloses the radio data system decoder (4) is configured to provide the control unit (12) with a list of alternative frequencies for the first frequency setting (col 5, lines 48-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have AFs to tune to another frequency which has better reception.

Regarding claim 22, Eggers et al and Moers disclose the radio receiver of claim 21, where Moers discloses the control unit (12) is configured to tune the first tuner (3) to an alternate frequency if a signal quality indication of the first tuner falls below a predetermined level of quality (col 5, lines 48-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to tune to an AF having a better FM reception as is well known in an FM receiver.

Regarding claim 23, Eggers et al and Moers disclose the radio receiver of claim 20, where Moers discloses the radio data system decoder (4) is configured to provide data to the control unit associated with the first frequency setting.

Regarding claim 25, Eggers et al and Moers disclose the radio receiver of claim 18, wherein Moers discloses further comprising a radio data system decoder (7)

connected with the second tuner (2) and the control unit (12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a decoder and in order to extract RDS data from the demodulated data as suggested by Moers (col 4, lines 42-44).

Regarding claim 26, Eggers et al and Moers disclose the radio receiver of claim 25, where the radio data system decoder (7) is configured to provide the control unit with a list of alternative frequencies for the second frequency setting. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have AFs to tune to another frequency which has better reception.

Regarding claim 27, Eggers et al and Moers disclose the radio receiver of claim 26, where the control unit (12) is configured to tune the second tuner (2) to an alternate frequency if a signal quality indication of the second tuner falls below a predetermined level of quality (col 5, lines 19-24).

Regarding claim 28, Eggers et al and Moers disclose the radio receiver of claim 25, where the radio data system decoder (7) is configured to provide data to the control unit (12) associated with the second frequency setting.

3. Claims 11, 14, 24, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggers et al (US 5,910,996) in view of Moers (US 6,957,053) and further in view of Miyake (US 6,038,434).

Regarding claims 11 and 24, Eggers et al and Moers disclose the radio receiver of claims 10 and 23 respectively, where Eggers et al and Moers do not disclose the data is displayed on a display connected with the control unit. Miyake discloses disclose the

data is displayed on a display (13) connected with the control unit (7) (fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to display data on a display in order to show to the user the RT data outputted from the memory buffer.

Regarding claims 14 and 29, Eggers et al and Moers disclose the radio receiver of claims 13 and 28, where Eggers et al and Moers do not disclose the data is displayed on a display connected with the control unit. Miyake discloses a radio receiver where the data is displayed on a display (13) connected with the control unit (7) (fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to display data on a display in order to show to the user the RT data outputted from the memory buffer.

4. Claims 16-17, 30 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggers et al (US 5,910,996) in view of Moers (US 6,957,053) and further in view of Huemann et al (US 5,661,811).

Regarding claim 16, Eggers et al and Moers disclose the radio receiver of claim 1, where Eggers et al and Moers do not disclose the second audio power amplifier is connected with a headphone jack. Huemann et al disclose a second power amplifier (24) is connected with a headphone jack (38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a headphone jack connected to the power amplifier in order to allow back passenger to hear the audio signal without hearing the front passenger's audio output or vice versa.

Regarding claim 17, Eggers et al and Moers disclose radio receiver of claim 1 where Eggers et al disclose the power amplifiers are connected with a vehicle 's speaker system (col 2, line 66 – col 3, line 6). Eggers et al and Moers do not disclose the first audio power amplifier is connected with a vehicle speaker system and the second audio power amplifier is connected with a headphone jack. Huemann et al disclose the first audio power amplifier (18) is connected with a vehicle speaker system (20) and the second audio power amplifier (38) is connected with a headphone jack (36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the speaker system of Eggers et al and Moers in a vehicle with a headphone jack in order to allow the tuned signal to be provided to passengers traveling in a car and allow the back passenger to hear the audio signal without hearing the front passenger's audio output or vice versa.

Regarding claim 30, Eggers et al and Moer disclose the radio receiver of claim 18, wherein Eggers et al disclose the power amplifiers are connected with a vehicle 's speaker system (col 2, line 66 – col 3, line 6). Eggers et al and Moers do not disclose the first audio power amplifier is connected with a vehicle speaker system and the second audio power amplifier is connected with a headphone jack. Huemann et al disclose the first audio power amplifier (18) is connected with a vehicle speaker system (20) and the second audio power amplifier (38) is connected with a headphone jack (36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the speaker system of Eggers et al and Moers in a vehicle with a headphone jack in order to allow the tuned signal to be provided to passengers

traveling in a car and allow the back passenger to hear the audio signal without hearing the front passenger's audio output or vice versa.

Response to Arguments

5. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N. Le whose telephone number is (571) 272-7891. The examiner can normally be reached on M-F 9:30-18:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lana Le

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11-10-06
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PRIMARY EXAMINER